

WHAT IS CLAIMED IS:

1. Apparatus for accessing content contained on a storage medium, the content comprising plural frames, the frames organized into plural scenes, the scenes organized into plural programs, the apparatus comprising:

4 a driver module configured to access the content and having a driver
5 output to produce an information signal representing the accessed content;
6 a decoder module operatively coupled to the driver module to receive
7 the information signal;
8 a user input module configured to receive user input; and
9 a system control module,
10 wherein the system control module controls the driver and decoder
11 modules to generate program identification information for each of the programs and
12 to produce a first display signal representing the program identification information,
13 wherein the system control module, in response to receiving a user-
14 specified program selection from the user input module, controls the driver module to
15 access a representative frame for each scene comprising the program corresponding to
16 the user-specified program selection and controls the decoder module to produce a
17 second display signal representing the representative frames.

1 2. The apparatus of claim 1 wherein the content is visual
2 information, audio information, or a combination of both.

1 3. The apparatus of claim 1 wherein the representative frames are
2 comprise first frame of each scene comprising the program corresponding to the user-
3 specified program selection.

1 4. The apparatus of claim 1 further including a data store coupled
2 to receive location data present in the information signal, the location data indicating
3 the location of one or more of the scenes contained on the storage medium, wherein
4 the driver module accesses a representative frame based on the location data.

1 5. The apparatus of claim 1 further including a display device
2 coupled to receive the display signals.

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1 6. The apparatus of claim 1 wherein the system control module, in
2 response to receiving a user-specified one of the representative frames, controls the
3 driver module to access one or more frames of the scene associated with the user-
4 specified one of the representative frames and controls the decoder module to produce
5 a third display signal representing the one or more frames.

1 7. The apparatus of claim 6 wherein the one or more frames
2 represented by the third display signal are fullscreen.

1 8. The apparatus of claim 6 wherein the system control module, in
2 response to receiving a user command from the user input module, controls the
3 decoder module to change the scaling of the one or more frames represented by the
4 third signal.

1 9. The apparatus of claim 1 wherein the program identification
2 information comprises numerical values, each numerical value associated with one of
3 the programs.

1 10. The apparatus of claim 9 wherein the first display signal
2 represents the numerical values as plural ranges of numerical values.

1 11. The apparatus of claim 10 wherein the system control module,
2 in response to receiving information from the user input module identifying a selected
3 one of the ranges of numerical values, controls the decoder module to produce a third
4 display signal representing a frame from a scene in each of the programs associated
5 with the numerical values in the selected one of the ranges.

1 12. The apparatus of claim 1 wherein the second display signal
2 includes frame identification information to identify the representative frames.

1 13. The apparatus of claim 1 wherein the frames are formatted in
2 accordance with an MPEG standard, wherein each of the representative frames is an I-
3 frame.

1 14. The apparatus of claim 1 wherein the second display signal
2 further represents on-screen display data comprising a row of tabs, each tab

3 comprising an id symbol identifying one of the programs, the representative frames
4 being arranged in row and column fashion, the tab that corresponds to the user-
5 selected program being visually distinct from the remaining tabs.

1 15. The apparatus of claim 14 wherein the id symbols are
2 numerical values.

1 16. The apparatus of claim 1 wherein the second display signal
2 further represents on-screen display data comprising a row of tabs, each tab
3 comprising an id symbol identifying one of the programs, the representative frames
4 being arranged in overlapping fashion, the tab that corresponds to the user-selected
5 program being visually distinct from the remaining tabs.

1 17. The apparatus of claim 1 further comprising a content input
2 component to record audio-visual information, the content input component
3 producing a second information signal representing the audio-visual information, the
4 driver module further configured to receive the second information signal and store
5 the audio-visual information on the storage medium, the audio-visual information
6 comprising video information, audio information, or both.

1 18. The apparatus of claim 17 wherein the audio-visual information
2 is organized into recorded frames, the recorded frames organized into recorded
3 scenes, the recorded scenes organized into recorded programs.

1 19. Apparatus for recording and accessing content on a storage
2 medium, the content comprising plural frames, the apparatus comprising:
3 a content input component to produce a first information signal
4 representing frames of audio-visual information to be recorded;
5 a driver module coupled to the content input component to store the
6 first information signal on the storage medium, the driver module including a portion
7 configured to access the content on the storage medium to produce a second
8 information signal;
9 a decoder module operatively coupled to the driver module to receive
10 the second information signal;
11 a user input module configured to receive user input; and
12 a system control module,

13 wherein the system control module, in response to receiving user-input
14 from the user input module, controls the driver module to define a stream, the stream
15 comprising a set of frames, whereby the frames are organized as plural streams as
16 defined by a user,

17 wherein the system control module, in response to receiving a first
18 user-provided command from the user input module, controls the driver and decoder
19 modules to produce a first display signal representing a representative frame from
20 each of the streams,

21 wherein the system control module, in response to receiving a user-
22 selected one of the representative frames from the user input module, controls the
23 driver module to access the stream associated with the user-selected one of the
24 representative frames and controls the decoder module to produce a second display
25 signal representing one or more of the frames of the stream corresponding to the user-
26 selected one of the representative frames.

1 20. The apparatus of claim 19 wherein the system control module,
2 in response to receiving a second user-provided command from the user input
3 module, controls the driver module identify a frame as a representative frame.

1 21. The apparatus of claim 20 wherein the representative frame is
2 identified by measuring the time from the beginning of the stream to the time of
3 receiving the second user-provided command.

1 22. The apparatus of claim 19 further including a data store
2 coupled to receive location data, the location data indicating the location of each
3 stream on the storage medium, wherein the driver module accesses a representative
4 frame based on the location data.

1 23. The apparatus of claim 22 wherein the system control module
2 controls the driver module to store the location data on the storage medium.

1 24. The apparatus of claim 19 further including a display device
2 coupled to receive the display signals.

1 25. The apparatus of claim 19 wherein the first display signal
2 further represents date information.

1 26. The apparatus of claim 19 wherein the first display signal
2 further represents user-provided information.

1 27. The apparatus of claim 19 wherein the representative frames
2 includes time-of-day information.

1 28. The apparatus of claim 19 wherein the second display signal
2 further represents on-screen display data comprising the representative frames
3 arranged in row and column fashion.

1 29. A method of accessing content contained on a storage medium,
2 the content being audio information, visual information, or audio-visual information,
3 the content being organized into plural programs, each program comprising plural
4 scenes, each scene comprising plural frames, the method comprising:
5 producing a first display signal representing first information
6 comprising a representative frame from a scene from each program; and
7 receiving a program selection and in response thereto, producing a
8 second display signal representing second information comprising one or more of the
9 scenes associated with the selected program.

1 30. The method of claim 29 wherein the step of receiving a
2 program selection includes receiving a user-specified one of the representative
3 frames, and the step of producing a second display signal includes accessing one or
4 more frames of the scene associated with the user-specified one of the representative
5 frames.

1 31. The method of claim 29 wherein the first information further
2 comprises on-screen display data representing a row of tabs, each tab having an id
3 symbol identifying one of the programs, the representative frames being arranged in
4 row and column fashion, the tab that corresponds to the user-selected program being
5 visually distinct from the remaining tabs.

1 32. A method for recording and accessing content on a storage
2 medium, the content comprising plural frames, the method comprising:

3 receiving an input signal representing frames of audio-visual
4 information to be recorded;
5 storing said frames on said storage medium as one or more streams;
6 producing a first display signal representing first information
7 comprising plural representative frames, each representative frame being a frame
8 from one of the streams;
9 receiving a user-selected one of the representative frames; and
10 producing a second display signal representing second information
11 comprising one or more of the frames from the stream associated with the user-
12 selected one of the representative frames.

1 33. Apparatus for accessing content contained on a storage
2 medium, the storage medium comprising plural frames, the frames organized into
3 plural scenes, the scenes organized into plural programs, the apparatus comprising:
4 first means for identifying the programs contained on the storage
5 device;
6 second means, operatively coupled to the first means, for producing a
7 first signal containing information relating to one or more of the programs; and
8 third means for receiving information relating to a selected program,
9 the second means operatively coupled to the third means to produce a
10 second signal containing information relating to one or more of the scenes associated
11 with the selected program.

1 34. Apparatus for accessing content contained on a storage
2 medium, the storage medium comprising plural frames, the frames organized into
3 plural scenes, the scenes organized into plural programs, the apparatus comprising:
4 a first circuit configured to identify the programs contained on the
5 storage device;
6 a second circuit, operatively coupled to the first circuit, configured to
7 produce a first signal containing information relating to one or more of the programs;
8 and
9 a third circuit configured to receive information relating to a selected
10 program,

- 11 the second circuit operatively coupled to the third circuit to produce a
12 second signal containing information relating to one or more of the scenes associated
13 with the selected program.

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